The first line of defense from cave-ins: The Competent Person

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Cave-ins remain a serious hazard to construction employees. According to the Bureau of Labor Statistics for 2001, the Construction industry accounted for approximately 92% of all fatalities from cave-ins. Because trenches and excavations are often located in plain view, they are prime targets for OSHA inspections. Fatalities, injuries, and OSHA citations can be alleviated with training, supervision, and proper shoring and sloping procedures. But for many employees engaged in trenching and excavation work, understanding and complying with these procedures can be difficult. Additionally, employees may not appreciate the seriousness of cave-in hazards or that the collapse of a 5 foot deep trench could result in death or serious injury. The first line of defense is the competent person who can detect hazards and initiate action to eliminate them.

Requirements for a Competent Person.

The OSHA standards contain two prerequisites for a competent person: (1) someone who is capable of identifying hazards and (2) someone who has authorization to take prompt corrective measures to eliminate those hazards. 29 C.F.R. § 1920.650(b). In the context of trenching and excavation hazards, such a person would not only have to know the OSHA standards for trenching and excavation at 29 C.F.R. §§ 1926.650- 652, but should also have field experience in identifying hazards and the most effective means to protect employees. However, knowledge and experience alone do not suffice. The competent person must have the authority to stop work if necessary and to initiate

immediate action to correct hazards. It is critical that employers impart to their competent persons the expectation that this authority be invoked whenever necessary. In the case where the competent person is not a part of management and who has minimal supervisory responsibilities, employers should emphasize and communicate that the competent person's safety instructions are to prevail over directions involving operations and productivity. It is not uncommon for willful OSHA citations to be affirmed based upon a competent person's or supervisor's observation of a hazard and failure to act to correct it, especially in the context of trying to quickly finish the job. Given the fact that a cave-in can occur unpredictably within seconds, a competent person's failure to stop the job and correct the hazard can also have fatal consequences.

In addition to providing technical training and refresher training to competent persons, employers should also communicate the expectation that the trenching safety standards are to be strictly adhered even at the cost of productivity. Safety can more than pay for itself in avoidance of OSHA penalties, limiting insurance liability, workers compensation and loss productivity. Reinforcement of this message from employers will ensure that competent persons know the expectation that safety comes first and the incentive or temptation to take shortcuts may be minimized.

The Inspection

Regardless of the depth of the excavation, the OSHA standards require that a competent person inspect the excavation and its adjacent areas. 29 C.F.R. § 1926.651(k)(1). An inspection must be done "prior to the start of work and as needed throughout the shift." The competent person should consider all of the factors present on the site that may increase the hazard of cave-in such as the proximity to vehicles and

heavy machinery, rain or water accumulation, and other construction work in the area, as may be applicable. The presence of additional hazards, which go uncorrected, could make the difference between a serious versus a willful OSHA citation or affect the amount of the penalty. For example, in Cedar Construction Company v. OSHRC, 587 F.2d 1303 (D.C. Cir. 1978), the court affirmed willful citations of the trenching standard after finding that the section of the trench which caved-in was in a backfilled area and that there was a danger of excessive vibration from a well-traveled highway nearby. There were also problems with groundwater in the trench. The court concluded that those factors made the hazardous trench more apparent and supported the willful violation.

The competent person's inspection should include the following:

1. Utilities. The locations of sewer, telephone, fuel, electric and water lines should be determined before digging of the excavation. The OSHA standards require that utility companies or owners be contacted for such information. If they cannot respond within 24 hours (unless a longer period is required by the applicable state or local law), digging of the excavation may commence with caution. The competent person should have detection equipment or other means to locate utility installations.

2. Safe Means of Egress. The competent person should ensure that a ladder or ramp or other means of safe egress is provided in excavations of 4 feet or more in depth so that no employee has to travel laterally more than 25 feet in order to leave the trench. The competent person should make frequent inspections to ensure that as employees' work locations change, the means of egress is relocated as necessary to ensure that it remains within the 25-foot travel distance limit. In Dakota Underground,

Inc. v. Secretary of Labor, 200 F.3d 564 (8th Cir. 2000), a willful citation for not maintaining a ladder within 25 feet of employees was affirmed. The court rejected the employer's argument that the ladders were moved periodically and that it merely failed to move one ladder for a short period of time. It was noted that the competent person on site could see that the ladder was not properly located and there was a record of past trenching violations. Particular attention should be given to ensure that the ramps comply with the requirements of the standards. 29 C.F.R. 1926.651(c)(1). Surface treatments on ramps are required to prevent slipping and the ramps shall be designed so that they do not displace and provide safe egress.

3. Vehicular Traffic. If employees are working near traffic, the competent person should ensure that employees are provided with and wear garments which are made of reflective or high-visibility material. It may also be necessary to establish barricades to steer traffic away from the excavation area. 29 C.F.R. § 1926.202.

4. Equipment. The competent person should consider the equipment that is or may be in use in the vicinity of the excavation. The standards prohibit employees from being underneath loads handled by lifting or digging equipment. Competent persons should ensure that employees remain clear of equipment and that effective communication and procedures are in place to prevent operators of equipment from lifting loads over employees.

5. Water Accumulation. The OSHA standards prohibit employees from working in excavations in which "there is accumulated water, or in excavations in which water is accumulating, unless adequate precautions have been taken." 29 C.F.R. § 1926.651(h)(1). Support or shield systems, water removal measures, or a safety harness

and lifeline may be used as possible precautions. If water removal equipment is used, it should be tested by the competent person beforehand to ensure it is operable. The standard requires that the competent person monitor its use.

6. Stability of Adjacent Structures and Surface Encumbrances. Adjacent structures to include buildings, walls, sidewalks and pavements and surface encumbrances should be inspected to ensure that they do not pose a hazard. Where necessary, shoring, bracing, and underpinning shall be installed. In Secretary of Labor v. Rawson Contractors, Inc., OSHRC 02-1921 (ALJ April 28, 2003), a serious citation was affirmed for failure to provide employees working in a trench with protection against the potential cave-in from a pavement collapse. Five feet of the pavement on which an excavator rested was not sufficiently supported and the front two feet of the excavator treads were also unsupported. The excavator could have caused the pavement to collapse, with both the excavator and pavement falling into the excavation.

7. Lose Rocks & Soil. The excavation itself should be examined by the competent person for loose rocks or soil. The standard requires that such materials be removed or that a protective barrier be installed if they pose a potential hazard by falling or rolling from the excavation. 29 C.F.R. § 1926.651(j)(1).

8. Fall Protection Hazards. Fall protection may also be necessary for employees who are working outside and around the excavation area. It may be necessary to install guardrails around sections where there is a potential for passersby or employees to fall into the excavation.

9. Hazardous Atmospheres. Testing of hazardous atmospheres inside the excavation must be conducted if a hazardous atmosphere could reasonably be expected to

exist due to landfill areas or the presence of hazardous chemicals nearby. 29 C.F.R. § 1926.651(g). If there is a potential for a hazardous atmosphere, the competent person should ensure that emergency rescue equipment is readily available. 29 C.F.R. § 1926.651(g)(2).

10. Soil Testing and Sloping. The OSHA standards require that employees be protected from cave-ins by a protective system in accordance with 29 C.F.R. § 1926.652(b) or (c) unless the excavation is "made entirely of stable rock" or it is less than five feet deep "and examination of the ground by a competent person provides no indication of a potential cave-in." With respect to excavations which do not fall within either of these exceptions, the competent person should conduct a soil test. Appendix A to Subpart P – Soil Classification details the methods by which soil and rock deposits are classified. They are considered to be either Type A, Type B or Type C. All soils are considered to be Type C unless otherwise determined after testing by a competent person in accordance with the OSHA standards. Classification of soil is based upon at least one visual and at least one manual analysis. Visual tests are conducted of the excavation in general based upon observations of the particle sizes and whether any cracks, clumps, layers or fissures exist. Manual tests are conducted to determine the quantitative and qualitative properties of the soil and how it responds to alteration. This may be done by means of a test of plasticity (or ball or rope test as it is sometimes called); a dry strength test; a thumb penetration test (considered by some experts as the least reliable); a drying test; or a strength test by means of a pocket penetrometer or hand-operated shearvane. Because the maximum slope of a trench depends in part upon the type of soil, it is important that the competent person test the soil before work begins and frequently

thereafter to determine the soil type. If the soil conditions change, further sloping or additional protection may be necessary. It is a good practice to make soil testing routine. It will not suffice as a defense to an OSHA citation, if for example, a trench is properly sloped for Type B soil, when the soil was not first tested and determined to be Type B soil. Once the soil type or types (if the soil is layered or if more than one type of soil exists within the excavation) are determined, the competent person can select the appropriate protective system. The sloping and benching design requirements for excavations are set forth in Appendix B to Subpart P-Sloping and Benching of the OSHA standards. The competent person must exercise care to ensure that the slope or benching configuration is permissible for the applicable soil type or types involved. Sloping or benching for excavations which are greater than 20 feet deep must be designed by a registered professional engineer. Once the protective system or slope or benching configuration is determined and before employees are permitted to enter the excavation, the competent person should inspect the excavation to ensure that it complies with the configuration and sloping requirements and/or that the protective system is properly installed. The slope and configuration of the excavation and the protective system should be inspected throughout the job.

11. Protective Equipment. Trench boxes and support systems should be inspected to ensure that they are free from damage and are used in a manner consistent with the manufacturer's recommendations and so that they will be effective in protecting employees. If timber shoring is used to form a protective system it must comply with the requirements in Appendix C to Subpart P-Timber Shoring for Trenches to the OSHA standards.

12. Spoil Piles. The competent person should evaluate the site and determine the best location for spoil piles so that they do not pose a hazard and can easily be kept at a distance of 2-feet or more from the excavation as it is being dug and extended if necessary.

Discipline. A violation of the OSHA standard may not exist if it was due to employee misconduct. Employee misconduct consists of the following elements: (1) a work rule prohibiting the violative condition; (2) effective training and communication of the work rule to employees; and (3) enforcement of the work rule. Dakota Underground, 2001 OSHD (CCH) 32,319 (Commission Decision OSHRC Docket No. 97-2079 March 20, 2001), *citing* DCS Sanitation Management, Inc., 82 F.3d 812 (8th Cir. 1996). Verbal reprimands of employees may not suffice, particularly if there is a repeated pattern for reoccurrence or if the reprimands are summarily dismissed by employees. In Dakota Underground, employees never received anything other than a verbal warning and employees knew that if they worked inside an unprotected excavation they would not be fired if they were caught. An effective enforcement program is necessary for the competent person to be able to exercise his authority to require employees to comply with safety rules.

Training and Supervision of Competent Persons. The employer should have a program or procedures in place to evaluate its competent persons and ensure that they are knowledgeable in the OSHA standards requirements and that they are conscientious with respect to their responsibilities as competent persons. Checklists and routine spot inspections may be useful for this purpose.

Constant Vigilance. Competent persons must be mindful of three considerations which apply to trenching and excavation hazards: (1) trenches are potentially deadly, therefore, no shortcuts should ever be taken when it comes to safety; (2) conditions change, requiring that the excavation and its areas be inspected often throughout the job; and (3) a trench is a high visibility item, something that is likely to trigger an OSHA inspection. Consider for example the case of Rawson Contractors, OSHRC Docket No. 99-0018 (Commission Decision March 27, 2000) in which willful violations of the trenching and excavation standards were cited as a result of two OSHA compliance officers who happened to drive by the site and notice a large spoil pile. They stopped and found a 20-foot deep excavation with nearly vertical walls. Trench boxes had been used in the excavation, but the competent person had ordered that they be removed when they interfered with installation of rebar supports. Employees were told to enter the trench and finish the job without any protection system in place. Finally, employers should recognize that one OSHA inspection may precede another, even in the same day. In Globe Contractors, Inc. v. Herman, 132 F.3d 367 (7th Cir. 1997), the first OSHA inspection was triggered by an anonymous complaint. The OSHA compliance officer went to the site, which was located alongside a public road in Appleton, Wisconsin, and observed two employees, one of whom was the foreman, climbing out of a trench that was between 10.5 to 11.5 feet deep. Two hours later the compliance officer returned with another compliance officer to witness the same foreman standing inside the trench. A willful citation was issued and affirmed for failure to protect employees against cave-ins.

Employers who invest in training of their competent persons and communicate their expectations that safety comes first have taken an aggressive step towards protecting their employees and ensuring compliance with OSHA.